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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,406	11/20/2003	Josef Bille	11126.6	9736

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EXAMINER	
THOMAS, BRANDI N	

ART UNIT	PAPER NUMBER
2873	

MAIL DATE	DELIVERY MODE
07/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/718,406	BILLE, JOSEF	
	Examiner	Art Unit	
	BRANDI N. THOMAS	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 June 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 6-10, 12-21, 23-25, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pawlowski et al. (2004/0002694 A1) in view of Zeylikovich et al. (5943133).

Regarding claims 1, 12, and 23, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), which comprises: a laser source (14) for generating a laser beam, (5) said laser beam (5) having a plurality of laser pulses (sections 0039 and 0040), wherein each laser pulse has a first wavelength (section 0040 and 0045); an optical assembly (10) for focusing each laser pulse to a focal point in the fundus (2) (section 0046), with the focal point being characterized by a spot size having a diameter (section 0054); a means (24) for detecting a return light having a second wavelength (section 0048), wherein the return light is generated when the laser beam is incident on anisotropic tissue in the fundus (2) (section 0048) but does not specifically disclose wherein the laser has a pulse duration less than approximately two hundred femtoseconds and a spot size having a diameter of approximately two microns and a second harmonic generation (SHG) response and a and a means for evaluating the return light to determine the health of the fundus tissue. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include a laser has a pulse duration less than

approximately two hundred femtoseconds and a spot size having a diameter of approximately two microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include a laser has a pulse duration less than approximately two hundred femtoseconds and a spot size having a diameter of approximately two microns for the purpose of an rapid laser beam and large enough spot size to encompass the diseased tissue. Zeylikovich et al. discloses the use of second harmonic generation (SHG) response for use in the fundus of the eye and being used to create an image (col. 14, lines 26-29) and a means for evaluating the health of the fundus tissue (col. 8, lines 35-45). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Powlowski et al. with the SHG and means for evaluating the health of the fundus tissue of Zeylikovich et al. for the purpose of increasing the sensitivity for the tissue imaging (col. 8, lines 35-45). Regarding claim12, Pawlowski et al. further discloses dilating the iris of the human eye to create an aperture having an extended diameter (section 0054).

Regarding claims 2, 15, and 24, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said first wavelength is in the range between 700 nm to 1000 nm (section 0039), and further wherein said second wavelength is in the range between 350 nm to 500 nm (section 0046).

Regarding claims 3, 16, and 25, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1) but does not

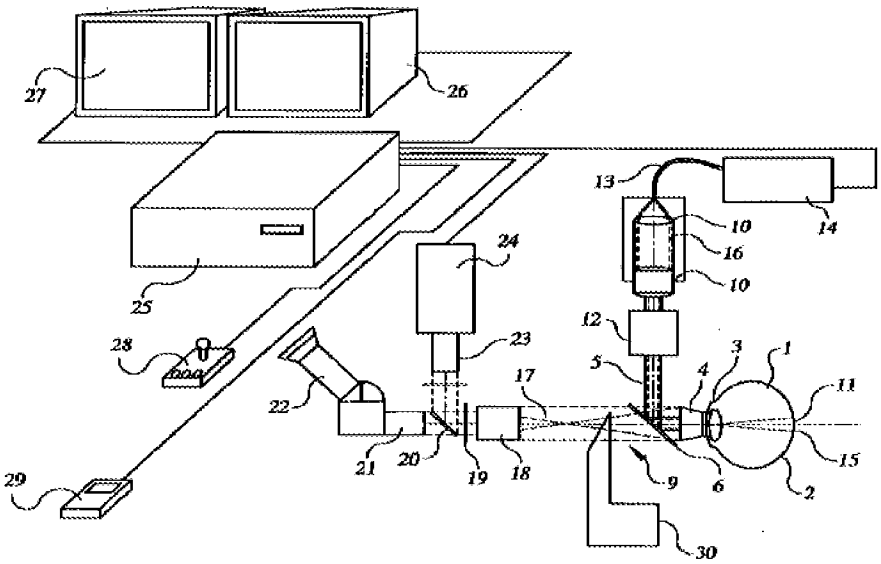
specifically disclose wherein said first wavelength is 880 nm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include a first wavelength is 880 nm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include a first wavelength is 880 nm for the purpose completing an accurate treatment of infected tissue.

Regarding claims 4, 14, and 29, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1) but does not specifically disclose wherein a pulse of said laser beam has an energy level of 1nJ. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include wherein a pulse of said laser beam has an energy level of 1nJ, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include wherein a pulse of said laser beam has an energy level of 1nJ for the purpose not damaging the eye tissue.

Regarding claims 6, 17, 18, and 27, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said optical assembly further comprises: an active mirror (36 and 37) (section 0054); a scanning unit (12) for periodically moving said laser beam from one focal point to an adjacent focal point in the fundus (2), to focus said laser beam on a plurality of focal points within said

fundus (sections 0054 and 0062); two focusing lenses (3 and 4) (section 0045); a wavefront sensor for generating data indicative of an alignment of the eye (1) (section 0054); and a computer (27) for receiving the data from said wavefront sensor for use in controlling said active mirror (36 and 37) to direct said laser beam to the focal point (section 0050).

FIG.2



Regarding claims 7, 19, and 28, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1) but does not specifically disclose wherein said laser beam irradiates a focal point with about five laser pulses. However, Pawlowski et al. does disclose the use of short and long pulses (sections 0039 and 0040). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to disclose wherein laser beam irradiates a focal point with about five laser pulses for the purpose of purpose not damaging the eye tissue.

Regarding claim 8, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said

detecting means comprises an imaging unit (24) in electronic communication with a computer (27) (section 0050).

Regarding claims 9, 20, and 30, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said evaluating means uses a pattern of the return light to evaluate the health of the fundus tissue (sections 0050 and 0051).

Regarding claims 10, 21, and 31, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said evaluating means compares an intensity level of said return light to a predetermined threshold value of light intensity to evaluate the health of the fundus tissue (sections 0045 and 0053).

Regarding claim 13, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said extended diameter is approximately six millimeters (section 0045).

3. Claims 5, 11, 22, 26, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pawlowski et al. (2004/0002694 A1) in view of Zeylikovich et al. (5943133) as applied to claims 1 and 23 above, and further in view of Dubnack (6347244).

Regarding claims 5 and 26, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1) but does not specifically disclose wherein said optical assembly includes adaptive optics. Dubnack discloses a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1), wherein said optical assembly includes adaptive optics (col. 4, lines 31-34). Therefore it would

have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Pawlowski et al. in view of Zeylikovich et al. with the adaptive optics of Dubnack for the purpose of adapting the shape and the size of the optics depending on the size of the infected area (col. 4, lines 31-34).

Regarding claims 11, 22, and 32, Pawlowski et al. discloses, in figures 1 and 2, a system for diagnostically evaluating the health of tissue within the fundus (2) of an eye (1) but does not specifically disclose wherein the return light includes a plurality of responses, and further wherein said evaluating means counts the number of return light responses to evaluate the health of the fundus tissue. Dubnack discloses wherein the return light includes a plurality of responses, and further wherein said evaluating means counts the number of return light responses to evaluate the health of the fundus tissue (col. 4, lines 19-29). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Pawlowski et al. in view of Zeylikovich et al. with the light response of Dubnack for the purpose of evaluating and treating the infected tissue (col. 9, lines 19-29).

Response to Arguments

4. Applicant's arguments filed 4/17/08 have been fully considered but they are not persuasive. Applicant argues that the only reference to "second harmonics" is in Zeylikovich (col. 14 Ins. 24-29) where it is clear that the second harmonics are used as a source (emphasis added), rather than as a response. However, the applicant claims “wherein the laser pulses induce a second harmonic generation (SHG) response”. Zeylikovich discloses wherein the laser emits a second harmonic generation (SHG) col. 14, lines 26-29). The applicant’s laser induces an SHG

and the prior art emits and SHG. A second harmonic generation is required in both the application and prior art. Therefore the claimed limitation is disclosed.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDI N. THOMAS whose telephone number is (571)272-2341. The examiner can normally be reached on Monday - Thursday from 6-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott J. Sugarman/
Primary Examiner, Art Unit 2873

BNT
July 14, 2008